

In the Claims:

Please amend claims 53, 57, 58, 62 and 68 as follows:

2  
B  
sub  
E2  
53. (Amended) A substantially pure nucleic acid [molecule,] comprising a sequence of nucleotides encoding [an alpha subunit or a beta] a subunit of a human neuronal nicotinic acetylcholine receptor, wherein said subunit is selected from the group consisting of an alpha subunit and a beta subunit.

57. (Amended) An isolated nucleic acid [molecule] that includes a sequence of nucleotides that encodes [an alpha or beta] a subunit of a human neuronal nicotinic acetylcholine receptor and hybridizes under conditions of high stringency to a sequence of nucleotides encoding a subunit [of] according to claim 54.

3  
B  
sub  
E2  
58. (Amended) The nucleic acid [molecule of] according to claim 54, wherein [the sequence of nucleotides is selected from] said nucleic acid comprises:

a sequence of nucleotides encoding [the] an alpha2 subunit and having the restriction map of the DNA encoding the human alpha2 subunit set forth in Figure 1,

a sequence of nucleotides encoding [the] an alpha3 subunit and having the restriction map of the DNA encoding the human alpha3 subunit set forth in Figure 2, or

a sequence of nucleotides encoding [the] a beta2 subunit and having the restriction map of the DNA encoding the human beta2 subunit set forth in Figure 3.

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In Claim 62, line 1, after "said cells", please insert  
--are--.

68. (Amended) A method for screening compounds for activity as nicotinic acetylcholine receptor agonists or antagonists, said method comprising [determining the effect of the compound on the neuronal nicotinic acetylcholine receptor activity of the]

contacting cells [of] according to claim 61 [compared to the effect on control cells or to the effect in the absence of the compound, wherein: the activity is assessed by detecting nicotine binding to the cells] with a test compound, and thereafter

monitoring the nicotinic acetylcholine receptor activity of the cells by measuring binding of nicotine to the cells, measuring the flux of ions through the membranes of the cells, [measuring transcription of a reporter gene in the cells,] or measuring the electrophysiological response of the cells[; and control cells do not express nicotinic acetylcholine receptors].

Cancel claims 64, 65 and 69, without prejudice.

Please add new claims 73-75 as follows:

--73. (New) Isolated nucleic acid that includes a sequence of nucleotides encoding an alpha2 subunit of a human neuronal nicotinic acetylcholine receptor and hybridizes under conditions of high stringency to a sequence of nucleotides in the coding sequence of HnAChR $\alpha$ 2 deposited under ATCC Accession No. 68277.--